

USSR

UDC 621.771.261

SICHEVOY, A. P., BABICH, V. K., BREZHNEV, L. A., PIROGOV, V. A.,
and OSIPOVICH, S. V.,

"Changes in the Properties of 45G Steel After Rolling on the
Three-Roller 120 Mill"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 6, Nov-Dec 70, p 38

Abstract: Properties of the 45G steel after heating, rolling and subsequent cooling under various conditions were investigated. Billets 115 mm in diameter and 600 mm long were heated at various heating rates up to 1150-1200° by the induction method, then subjected to shrinkage by rolling. The study of the macrostructure showed that sulfur and phosphorus distribution along the billet cross section was satisfactory, and the magnitude of general and central porosity did not exceed 2 points. Mechanical properties of the billets had not changed rolling and cooling under various conditions. It is concluded that low-carbon manganous steel in billets 115 mm in diameter can be rolled on three-roller transverse-spiral mills in accordance with the procedure used for carbon steels.

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UDC

621.313:621.3.019.3.001.4

MARINCHKIN, V. P., Candidate of Technical Science, OSIPOVICH, V. T., Engineer,
and REZTSOVA, M. V., Engineer

"Standardization of Accelerated Methods of Testing Electric Machines for Reliability"

Moscow, Elektrotehnika, No 6, June 1971, p 60

Abstract: The All-Union Scientific-Research, Planning-Design and Technological Institute of Crane and Traction Electrical Equipment developed a state standard which defines unified, accelerated methods for testing the reliability of crane, asynchronous electric motors for general industrial and metallurgical use. Statistical data gathered by the institute show that 90% of motor failures are caused by winding damage. The accelerated testing-methods developed took ten years of testing using more than 150 MT(K) type electric motors. The resulting test cycle consists of a 14 day period. The test data serves as the basis of GOST-16709-71 "Crane, Asynchronous Electric Motors (General Industrial and Metallurgical)." The tests conducted according to the new standard make it possible to determine, for example, failure-free operation of electric motors within 2-4 months after the beginning of testing. Earlier it took 1.5-2 years of continuous testing to obtain the required results. GOST-16709-75 went into effect as of 1 July 1971. The quantitative indices of reliability of GOST-185-70 for crane and metallurgical

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MARINCHKIN, V. P. et al., Elektrotehnika, No 6, June 1971, p 60

alternating current motors will be brought into compliance with GOST-16709-71. No new test equipment will be necessary at the manufacturing plants since existing test equipment can do the job. Work on setting up unified standardized methods for testing the reliability of electric machines is continuing.

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UDC: 621.313.353(083.75)

PERTSOV, G. I., Candidate Technical Sciences; BREZEMCOY, Yu. A.,
OSTROVICH, V. I., and SHIRNIN, I. G., Engineers

"New Government Standard on Explosion-Proof Asynchronous Motors
of the VAO Series with Power Ratings of from 132 to 1000 Kilowatts"

Moscow, Elektrotehnika, No. 2, February 1971, pp 59-60

Abstract: This standard is the second on motors of the VAO series to be stated, the first relating to machines with a power rating of up to 100 kW. The need for the standards was stimulated by requirements for high-power asynchronous electric motors for the growing number of chemical plants, for mining in general and hydraulic mining of coal in particular. Up until recently, the requirements of the national economy for low-voltage explosion-proof electric motors with higher power ratings than 100 kW were satisfied by the MA-36 motor. From the viewpoint of weight and

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PERTSOV, G. I., et al. Elektrotehnika, No 2, Feb 71, pp 59-60

energy output, however, the MA-36 is inferior to the best foreign motors. High-voltage explosion-proof electric motors were not put into production in the Soviet Union until 1968. The machines to which the new standard applies were developed by the Institute of the VNIIE /expansion unknown/ in cooperation with the Elektromash, Sibelektrotyazhmash, and Karl Marx First of May Plants.

1/2 009
TITLE--MANIPULATOR WITH A SYLPHONIC HYDRAULIC DRIVE FOR MICROELECTRODES
-U-
AUTHOR--(03)-MATVEYEVA, M.B., OSIPOVICH, V.V., SHOLOKHOV, V.YU.
COUNTRY OF INFO--USSR
SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56,
NR 5, PP 797-799
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--HYDRAULIC ACTUATOR, PLATINUM MICROELECTRODE, METAL SYLPHON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1001
CIRC ACCESSION NO--AP0124660
STEP NO--UR/0239/70/056/005/0797/0799
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124660

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HYDRAULIC SYSTEM FOR REMOVAL OF THE MICROELECTRODES WAS DESCRIBED, WHERE THE SYLPHONS WERE USED INSTEAD OF CYLINDERS WITH PISTONS AS FUNDAMENTAL DEVICE FOR THE REGULATING AND EXECUTIVE PARTS. THE SYSTEM WORKS BY APPLYING A PRESSURE TO THE REGULATING SYLPHON WITH THE AID OF A MICROSCREW. THE PRESSURE IS TRANSMITTED BY THE HYDRODRIVE TO THE EXECUTIVE SYLPHON WHICH HAS ELECTRODE HOLDER ATTACHED TO IT. THE ADVANTAGE OF THIS PARTICULAR DEVICE CONSISTS OF ITS BEING UTTERLY HERMETIC. FACILITY: INSTITUTE OF PHYSIOLOGY, SIBERIAN BRANCH OF ACAD. SCI. USSR, NOVOSIBIRSK.

UNCLASSIFIED

Therapy

USSR

UDC 616.981.42-036.12-085.838.06

OSIPYAN, S. N., and OSIPYAN, T. N., Dzhambul'skaya Oblast Balneological Hospital

"Balneological Reaction in the Therapy of Patients With Chronic Brucellosis"

Moscow, Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury, No 3, Jul/Aug 71, pp 324-326

Abstract: Observations of patients with chronic brucellosis treated by balneology established that 107 of these patients developed different degrees of balneological reaction. In 62 of these patients it was manifested by the intensification of local pain sensations, loss of appetite, disturbed sleep, and general debility lasting 2-3 days and requiring no interruption of treatment. The same symptoms in 27 of the patients were of longer duration and more pronounced, requiring some corrective therapy. The reaction in 18 of the patients was intense in character and marked by sharp pain sensations and functional disturbances, and, as a rule, required essential correctives in the method of balneo-mud therapy and in some cases the administration of drugs. The assumption is that the clinical manifestations of a balneological reaction are mainly due to failure to take into consideration the compensatory potentials of the patient's

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OSIPYAN, S. N., and OSIPYAN, T. N., Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury, No 4, Jul/Aug 71, pp 324-326

organism and the condition of the basic physiological systems. It seems, therefore, that complex therapy individually selected and appropriate to the potentials of the patient's organism, with consideration for the patient's tolerance to the prescribed therapeutic procedure, could serve to prevent balneo-reaction and thereby increase the effectiveness of the treatment. An analysis of the data also indicated that the best immediate and remote stable therapeutic results are obtained in patients with no manifestations of balneo-reaction, or had only mild forms of such a reaction developed during the first half of the therapeutic period.

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USSR

OSIPYAN, S. N., Dzhanbul Balneological Hospital

"Treatment of Patients Suffering From Chronic Brucellosis With Involvement of the Peripheral Nervous System"

Alma-Ata, Zdravookhraneniye Kazakstana, No 10, Oct 71, pp 53-54

Abstract: Chronic brucellosis is rather widespread, particularly in livestock regions, and distinguishes itself by its long duration and subsequent complications, which may include injuries of an allergic character to the nervous system. During 1966-1968, 356 patients with the disease were treated in the author's hospital; of these 303 had involvement of the support-motor. A deforming type of arthrosis-osteoarthritis with pronounced changes in the joints was observed in 11% of the cases. Of the same group of patients, 175 men and 106 women (78% of the group) had affections of the nervous system, primarily neurological ones. The duration of the disease varied from one year (in five patients) to twenty years (in twenty-seven patients).

Comparisons were made of the effect of various treatments on the specific symptoms of the disease. It was found that the most positive results were achieved in the algescic syndrome, at painful spots, in traction symptoms, 1/2

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OSIPYAN, S. N., Zdravookhraneniye Kazakstana, No 10, Oct 71, pp 53-54

and motor functions. The dynamics of neurotic phenomena under the balneological treatment showed that the most positive results (88-96% improvement) were achieved with phenomena such as disturbance of sleep and unpleasant sensations in the heart region.

Less affected by treatment (71-81% improvement) were such symptoms as headaches, dizziness, fatigability, lack of appetite. Only 29% improvement was noted for symptoms like poor memory. Patients with a single impairment of the peripheral nervous system showed greater improvement than did patients with a variety of injuries.

The most favorable season for treatment of the disease in the Dzhambul Balneological Hospital at Lake Ak-Kul' is fall, the least favorable season is winter.

Balneological mud therapy appears to be one of the best means of nonspecific therapy for brucellosis patients.

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Therapy

USSR

UDC 616.981.42-036.12-085.838.06

OSIPYAN, S. N., and OSIPYAN, T. N., Dzhabul'skaya Oblast Balneological Hospital

"Balneological Reaction in the Therapy of Patients With Chronic Brucellosis"

Moscow, Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury, No 3, Jul/Aug 71, pp 324-326

Abstract: Observations of patients with chronic brucellosis treated by balneology established that 107 of these patients developed different degrees of balneological reaction. In 62 of these patients it was manifested by the intensification of local pain sensations, loss of appetite, disturbed sleep, and general debility lasting 2-3 days and requiring no interruption of treatment. The same symptoms in 27 of the patients were of longer duration and more pronounced, requiring some corrective therapy. The reaction in 18 of the patients was intense in character and marked by sharp pain sensations and functional disturbances, and, as a rule, required essential correctives in the method of balneo-mud therapy and in some cases the administration of drugs. The assumption is that the clinical manifestations of a balneological reaction are mainly due to failure to take into consideration the compensatory potentials of the patient's

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USSR

OSIPYAN, S. N., and OSIPYAN, T. N., Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury, No 4, Jul/Aug 71, pp 324-326

organism and the condition of the basic physiological systems. It seems, therefore, that complex therapy individually selected and appropriate to the potentials of the patient's organism, with consideration for the patient's tolerance to the prescribed therapeutic procedure, could serve to prevent balneo-reaction and thereby increase the effectiveness of the treatment. An analysis of the data also indicated that the best immediate and remote stable therapeutic results are obtained in patients with no manifestations of balneo-reaction, or had only mild forms of such a reaction developed during the first half of the therapeutic period.

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1/2 018
UNCLASSIFIED
TITLE--METHODS FOR COMBATTING FLEAS -U-
PROCESSING DATE--27NOV70
AUTHOR--(05)-STEPANOV, M.K., OSIPYAN, T.V., KAZHDAN, V.B., MASLIY, L.K.,
GRABOVSKIY, B.S.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,328
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOYARNYE ZNAKI 1970, 47(7)
DATE PUBLISHED--04FEB70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FLEA, INSECTICIDE, CHEMICAL PATENT, AMIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1561
STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128956
UNCLASSIFIED

2/2 018
CIRC ACCESSION NO--AA0128956
ABSTRACT/EXTRACT--(U) GP-0-
A FLEA REPELLENT.

UNCLASSIFIED

PROCESSING DATE--27NOV70
ABSTRACT. HEXAMETHYLENECARBAMIDE WAS USED AS

UNCLASSIFIED

USSR

UDC 6161.9-085.7:546.272.1

SHAPILOV, O. D., RACHINSKIY, F. Yu., DELEL'BAUM, A. B., OSIPYAN, V. T.
and KRUPENINA, A. A.

"Derivatives of Diethyl Ether Containing Phenoxy- and Hexamethyleneimonium
Groups, as Bactericides"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLIV, No 1, Jan 71, pp 223-226

Abstract: Some quite effective bactericides among hexamethylamineimonium
compounds have already been discovered (1968, 1970).

Of the subgroup mentioned above, 18 compounds were synthesized and tested
for bactericidal action (Staphylococcus aureus).

Of these 18, the bromide of the [β -(2,4-dichlorophenoxy)- β' -(N-decylhexa-
methyleneimonium)] derivative of diethyl ether was found to be the most
promising. Physical constants of the 18 compounds and details of the
synthesis are included in the paper.

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USSR

UDC 615.28:547.337.3

SHAPILOV, O. D., RACHINSKIY, F. YU., OSIPYAN, V. T., DEKEL'BAUM, A. B., POTANENKO, T. G., KRUNENINA, A. A., Military Medical Academy imeni S. M. Kirov, Leningrad

"Hexamethyleneimmonium Compounds Containing Alkoxy-, Hydroxy- and Cyanoalkyl Substituents at the Quaternary Nitrogen Atom, and Their Bactericidal Properties"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 2, Feb 71, Vol 5, pp 19-22

Abstract: Hexamethyleneimmonium compounds with alkyl, carb-alkoxymethyl, phenoxyethyl and other substituents with 17 to 21 carbon atoms at the N exhibit marked bactericidal action; ammonium compounds with alkoxymethyl groups at the quaternary nitrogen atom are both good bactericides and highly water-soluble.

The author obtained a number of hexamethylimmonium compounds by alkylation of tertiary derivatives of hexamethylenimine, and also some highly water-soluble compounds through synthesis of substances

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USSR

SHAPILOV, O. D., et al, Khimiko-Farmatsevticheskiy Zhurnal,
No 2, Feb 71, Vol 5, pp 19-22

with cyanoethyl and cyanomethyl groups at the quaternary nitrogen atom. Thirty-six compounds in all were studied for bactericidal and other properties.

Some 30 of these were quite effective against E. coli and Staphylococcus aureus, and were moderately or highly water-soluble. Physical and bactericidal properties are given in the paper.

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USSR:

UDC 632.95

STEPANOV, M. K., OSIPYAN, V. T., KAZHDAN, V. B., MASLIY, L. K., GRABOVSKIY, B. S., and DUNAYEVA, I. D.

"A Method of Controlling Fleas"

USSR: Author's Certificate No 263328, filed 16 Mar 62, published 26 May 70 (from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N569)

Translation: Hexamethylenecarbamide (I) is proposed for use as a flea repellent. The substance is an oily, colorless, odorless liquid with a boiling point of 153°C/3 mm, d_{420}^{20} 1.0489, n_{20D}^{20} 1.5161. Compound I is synthesized by bubbling COCl_2 at 5-10°C through a solution of hexamethylene diamine in an appropriate solvent. The preparation is stable. In 30 days of storage under conditions of intense ventilation, 20-25 percent of compound I or less was volatilized.

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172 027
UNCLASSIFIED
TITLE--A NEW METHOD OF STERILIZING SURGICAL GLOVES --U-
PROCESSING DATE--20NOV70
AUTHOR--(C4)--USIPYAN, V.F., GRAMENITSKAYA, V.G., SHAPILOV, G.D., SAVINSKIY,
YA.R.
COUNTRY OF INFO--USSR
SOURCE--VOEYNAO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 77-78
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SURGICAL EQUIPMENT, MILITARY HOSPITAL, MERCURY COMPOUND,
CHLORIDE, STERILIZATION, BACTERICIDE, BACILLUS ANTHRACIS, BACILLUS
SUBTILIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0694
STEP NO--UR/0177/70/000/003/0077/0078
CIRC ACCESSION NO--AP0134433
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134433

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHODS OF STERILIZATION OF SURGICAL GLOVES NOW USED IN MEDICAL INSTITUTIONS OF THE ARMY AND NAVY (AUTOCLAVING, BOILING, AND WETTING IN MERCURIC CHLORIDE SOLUTION, ETC) HAVE SUBSTANTIAL SHORTCOMINGS. THIS LED US TO SEEK OTHER, MORE EFFECTIVE METHODS OF STERILIZATION. IN THE COURSE OF 1967-1968 WE CONDUCTED INVESTIGATIONS TO DETERMINE THE POSSIBILITY OF USING PRO THE STERILIZATION OF SURGICAL GLOVES CERTAIN HYDROPEROXIDE PRESCRIPTIONS BASED ON ALKALIZING OR ACYLATING AGENTS. STUDY OF THE MICROBICIDAL AND DISINFECTING ACTION OF PRESCRIPTIONS CONTAINING HYDROGEN PEROXIDE AND ONE OF THE ACYLATING AGENTS (ACETIC ANHYDRIDE, MONOCHLOROACETIC, FORMIC, BENZOIC, ACETIC, PROPIONIC AND OTHER ACIDS) SHOWED THAT IN ITS COMPLEX OF PROPERTIES THE MOST RATIONAL IS A SYSTEM CONTAINING 30PERCENT PERHYDROL AND FORMIC ACID SOLUTION, CALLED PREPARATION 2-4 BY US. THE PERFORMIC ACID FORMING AS A RESULT OF THE REACTION OF THOSE COMPONENTS HAS A LETHAL EFFECT ON MICROBES. SOLUTIONS OF PREPARATION S-4 (2.4-4.8PERCENT) HAVE A BROAD SPECTRUM OF BACTERICIDAL ACTION AND ASSURE THE DEATH OF SPORES OF BAC. ANTHRACIS, BAC. ANTHRACOIDES AND BAC. SUBTILIS IN THE FIRST FIVE OR TEN MINUTES.

UNCLASSIFIED

1/3 015
TITLE--SYNTHESIS AND STUDY OF HEXAMETHYLENIMMONIUM COMPOUNDS AS BACTERIDES
-U-
AUTHOR--(04)--SHAPILOV, O.D., MAMEDOV, F.N., POTAPENKO, T.G., OSIPYAN, V.T.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1), 131-5
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACTERICIDE, PHENOL, ORGANIC SULPHUR COMPOUND, AMMONIUM
COMPOUND, ALKYL RADICAL, HALIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/0407
CIRC ACCESSION NO--AP0100890
STEP NO--UR/0080/70/043/001/0131/0135
UNCLASSIFIED

2/3 015

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100890

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING DRY HCL INTO 71.5 G N (2 HYDROXYETHYL)HEXAMETHYLENIMINE IN CSUB6HSUB6. ADD ING 71.4 G SOCLSUB2, AND HEATING 1 HR AT 40DEGREES GAVE 70PERCENT SOLID N (2 CHLOROETHYL)HEXAMETHYLENIMINE HCL, THIS WITH ALKALI GAVE THE LIQ. FREE BASE, WHICH HEATED, OR TREATED WITH HSUB20 OR ALCS., WAS CONVERTED INTO A SOLID CONTG. IONIC CL. THE AMINE (26G) HEATED IN ETSUB0 6 HR WITH THE REACTION PRODUCT OF 21.5G. RHO MESUB3CCSUB6HSUB4SH AND 3 G K GAVE 50PERCENT RCSUB6HSUB4SCHSUB2CHSUB2NRSUB2 (NRSUB2 EQUALS HEXAMETHYLENIMINO) R EQUALS RHO MESUB3C, BSUB2 172-6DEGREES, SIMILARLY WAS PREPD. THE ANALOG WITH R EQUALS RHO ME, BSUB2 158-64DEGREES. SIMILAR REACTION WITH RHO-ETCSUB6HSUB4SCHSUB2CHSUB2OCHSUB2CHSUB2NRSUB2, SIMILARLY UNDISTO. RHO-ETCSUB6HSUB4SCHSUB2CHSUB2OCHSUB2CHSUB2NRSUB2, SIMILARLY WERE PREPD. RHO-MEC SUB6HSUB4SCHSUB2CHSUB2OCHSUB2CHSUB2NRSUB2, 45PERCENT, BSUB1 140-5DEGREES, AND RHO-MEPRCH ANALOG, BSUB1 164-7DEGREES, NPRIME20SUBD 1.3454.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

3/3 015

CIRC ACCESSION NO--AP0100890

ABSTRACT/EXTRACT--TREATING THE APPROPRIATE AMINES WITH ALKYL HALIDES GAVE THE FOLLOWING QUATERNARY SALTS:

(RHO-RCSUB6HSUB4SCHSUB2CHSUB2NRSUB2RPRIME1) PLUSXMINUS (NRSUB2 EQUALS HEXAMETHYLENIMINO) (R, RPRIME1, AND X SHOWN): ME, CSUB7HSUB15, BR, ME, CSUB10HSUB21, BR, ME, CHSUB2COSUB2CSUB7HSUB15, CL, ME, CHSUB2COSUB2CSUB10HSUB21, CL, MESUB36, CSUB6HSUB13, BR, MESUB3C, CSUB7HSUB15, BR, MESUB3C, PHCNSUB2, CL, THE FOLLOWING RHO-RCSUB6HSUB4SCHSUB2CHSUB2CHSUB2NRSUB2RPRIME1 PLUSXMINUS: ME, CSUB7HSUB15, BR, ME, CSUB10HSUB21, BR, ME, CHSUB3COSUB2CSUB10HSUB21, CL, ME, CLSUB12HSUB25, BR, ET, CSUB7HSUB15, BR, ET, CSUB10HSUB21, BR, MEPRCH, CSUB5HSUB4, BR, MEPRCH, CSUB6HSUB13, BR, MEPRCH, PHCHSUB2, CL, MEPRCH, CSUB7HSUB15, BR, MEPRCH, CSUB8HSUB17, BR, MEPRCH, CSUB10HSUB21, BR, AND MEPRCH, CHSUB2COSUB2 CSUB7HSUB15, CL. BACTERICIDAL TEST DATA WERE TABULATED, THEY WERE RELATIVELY NONTOXIC TO ANIMALS AND RATHER ACTIVE AGAINST MICROORGANISMS, AND MOST ACTIVE WERE THE MEMBERS WITH DECYL SUBSTITUENTS.

UNCLASSIFIED

USSR

UDC 632.95

VASHKOV, V. I., DEDOV, V. S., DRENOVA, V. P., SMIRNOVA, S. N., OSIPYAN, V. T.,
MASLIY, L. K., KOCHANOVA, A. P., and MARKINA, V. V.

"Entomological and Toxicological Characteristics of a New Repellent --
Carboxide"

Tr. VNIi dezinfektsii i steriliz. (Works of All-Union Scientific Research
Institute of Disinfection and Sterilization), 1971, vyp. 21, Vol 2, pp 30-37
(from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N465 by T. A. Belyayeva)

Translation: Carboxide is an effective repellent for mosquitoes, midges, and
some species of horseflies and mites. As creams and ointments are made,
protective film-forming substances must be put in since carboxide is absorb-
able through the skin. Refined carboxide, when used in its various forms
(ointment, cream etc.), causes no lesions on exposed areas of the body and has
no side effect on the human organism. Use of unrefined (industrial) carboxide
to make various forms of the repellent can induce skin irritation.

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1/2 026 UNCLASSIFIED
TITLE--EPR IN PLASTIC DEFORMED SILICON -U-

AUTHOR--GRAZHULIS, V.A., OSIPYAN, YU.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1259-1264

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--PLASTIC DEFORMATION, SILICON, EPR, CRYSTAL DISLOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1002

STEP NO--UR/0056/70/059/004/1259/1264

CIRC ACCESSION NO--AP0105866

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 026

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105966

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WEAKLY DOPED SILICON CRYSTALS ARE INVESTIGATED EXPERIMENTALLY BY THE ELECTRON PARAMAGNETIC RESONANCE TECHNIQUE. PARAMAGNETIC CENTERS PRODUCED DURING PLASTIC DEFORMATION OF THE CRYSTALS ARE DETECTED. THE CONCENTRATION OF THE CENTERS MONOTONOUSLY INCREASES WITH INCREASE OF THE DEGREE OF DEFORMATION. THE EPR SPECTRUM OF THE CENTERS IS ANISOTROPIC AND POSSESSES AN INCOMPLETELY RESOLVED FINE STRUCTURE. INTENSE ANNEALING OF THE CENTERS OCCURS ONLY AT T IS GREATER THAN OR SIMILIAR TO 600DEGREESC, THE ACTIVATION ENERGY OF THE ANNEALING PROCESS BEING SIMILIAR TO 2 EV. IT IS SUGGESTED THAT THE CENTERS OBSERVED ARE DUE TO ELECTRONS OF BROKEN BONDS IN DISLOCATION NUCLEI WITH BOUNDARY COMPONENTS.

UNCLASSIFIED

OSIP'YAN YU.A.

Physical +
Mathematical
Sciences

DISLOCATIONS AND PHYSICAL PROPERTIES OF SOLIDS

Article by Doctor of Physical and Mathematical Sciences, Yu.
A. Osip'yan-Moscow, Vsesoyuznyi Nauchnyi Tsentr, Russian, Vol
42, No 4, April 1972, pp 314-321

UDC: 539.2
SPRS 5607
43 May 72

In the investigation of perfect crystals by methods of high resolution in the last few years a number of important data characterizing the behavior of individual dislocations in such crystals have been obtained. Almost all these data relate to the interaction of dislocations with impurities and other imperfections of the crystal lattice. This is connected with the fact that there are direct means of controlled introduction into a crystal of impurities (alloying) and other imperfections of the type of point defects or groups of them (annealing and irradiation), and of new phases (heat treatment of alloys). At the same time, changing the state characteristic of a crystal lattice by external effects, without introducing an impurity or other defects of the crystalline structure into the crystal, is a very difficult experimental task. In practice it is almost impossible to change the mean characteristics of a lattice (such as the electron and phonon spectra and the interatomic distances) without changing the local parameters. Actually, the most powerful means of changing the mean characteristics -- alloying of the crystal -- has such a strong effect on the local characteristics that in studying the properties of dislocations it is impossible to distinguish the extent to which these properties are caused by interaction of the dislocation with the lattice or with the local heterogeneities.

The only class of objects on which that problem is successfully investigated experimentally is crystals of semiconductors. In those crystals it is possible by means of external effect (light or an electric field) to change the character of the electron spectrum and at the same time certain fundamental characteristics, without changing the atomic crystalline structure and without introducing local imperfections into the crystalline structure.

USSR

UDC 8.74

KISE, V. A., OSIS, Ya. Ya.

"Investigation of Algorithms for Finding Quasioptimum Coverage of a Set"

Riga, Kibernetika i diagnostika--sbornik (Cybernetics and Diagnosis--collection of works), vyp. 5, 1972, pp 197-204 (from RZh-Matematika, No 1, Jan 73, abstract No 1V838)

Translation: The authors consider algorithms for finding the quasioptimum coverage of set B by set A if a matrix C is given which presents the binary ratios of these sets. The algorithms "prikrapok 1", "prikrapok 2" and "prikrapok 3" are written in the LYAPAS language. An investigation is made of the accuracy of the given algorithms for finding the quasioptimum coverage of sets as a function of the dimensions of matrix C and the probability that any of the elements of matrix C is equal to unity. The algorithms are compared for accuracy and computer time. Authors' résumé.

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USSR

KISE, V. A., OSIS, Ya. Ya.

"Study of Algorithms for Location of Quasioptimal Coverage of a Set"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No 5, Riga, Zinatne Press, 1972, pp 197-204 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V838 by the authors).

Translation: Algorithms for determination of quasioptimal coverage of set B with set A are studied, if matrix C is given, the binary ratio of these sets. The first three algorithms are presented in LAPAS. The accuracy of these algorithms for determination of quasioptimal coverage of sets is studied as a function of dimensions of matrix C and probability that any of the elements of matrix C is equal to unity. The algorithms are compared as to accuracy and machine time.

1/1

USSR

BORISOV, A. N., VUL'F, G. N., OSIS, Ya. Ya.

"Prediction of the State of Complex Systems Using the Theory of Eroded Sets"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No 5, Riga, Zinatne Press, 1972, pp 79-84 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V885 by the authors).

Translation: The possibility is studied of using the theory of eroded sets in problems of predictions of the states of complex systems. The vector function of state $X(t)$ in this case is replaced by a function of membership in class $f_{or}(X, t)$. As an example, prediction of the state of a cylinder-piston group in an internal combustion engine is studied.

1/1

- 85 -

USSR

UDC 51.155.001.57.612.82

OSIS, Ya. Ya.

"Mathematical Description of Functioning of Complex Systems"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No. 4, Riga, 1970, pp 7-14 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V723 by the author).

Translation: A new model is suggested for the functioning of a complex system, consisting of a topological space (X, θ) , where X is a finite set of functional properties of the system; θ is the topology defined in X . The selection of a topological model of the system from the topological space of the medium is formalized as the task of closure of the set of natural properties of the system. Topological properties of models of normally functioning systems are studied.

1/1

USSR

UDC 51.155.001.57.681.3.06

OSIS, Ya. Ya., MARKOVICH, Z. P.

"Algorithm for Preliminary Selection of Effective Diagnostic Parameters"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No. 4, Riga, 1970, pp 77-91, (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V710 by the authors).

Translation: An algorithm is suggested for determination of a set of diagnostic parameters on the basis of mathematical description of an object as a graph model. Formal methods of processing the initial model are described, including, determination of the extent of influence of the parameter on the graph, construction of working graph models of the initial model, division of the model into sectors and ordering of points. The points of the model are to be estimated by a combined indicator, considering the cost of the test apparatus, accessibility of the parameter, test time and availability of apparatus. The arcs of the graph model are evaluated on the basis of their information content. The set of diagnostic parameters is determined by finding an externally stable subset of points of the graph model, after which correspondence of the symptoms to defects is tested.

1/1

USSR

UDC 51:155.001.57:612.82

OSIS. Ya. Ya.

"Study of Disruptions in the Functioning of Complex Systems and the Theory of Categories"

Kibernetika I Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No 4, Riga, Zinatne Press, 1970, pp 15-19 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V603 by the author).

Translation: The concepts of the "syndrome", "asymdrome", "distance", "failure" and "defect" are introduced and they are defined on the basis of a topological model of the functioning of a complex system. An attempt is made to formulate the problem of diagnosis using the theory of categories.

1/1

USSR

UDC 51.155.001.57.681.3.06

OSIS, Ya. Ya.

"Method of Optimal Recognition of Classes in Diagnosis"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works], No. 4, Riga, 1970, pp 95-104 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V711 by the author).

Translation: It is suggested that the problem of diagnosis be looked upon as a problem of determination of the greatest scalar product of the code of a class and the code of the object to be recognized. The primary definitions and a formalized basis are presented for determination of the optimal p-dimensional space, consisting of the most informative primary and conjunctive characteristics. In order to reduce the listing in determination of conjunctive characteristics, it is suggested that the geometric properties of planar abstract visual patterns which are the objects of diagnosis from the learning materials be used. In recognition, simple devices such as code tables can be used in addition to computers. An example is studied.

1/1

USSR

UDC 51:155.001.57:681.3.06

BORISOV, A. N., OSIS, Ya. Ya.

"Method of Estimating Membership Functions of Elements of an Eroded Set"

Kibernetika i Diagnostika [Cybernetics and Diagnosis -- Collection of Works],
No 4, Riga, Zinatne Press, 1970, pp 125-134 (Translated from Referativnyy
Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V582 by the authors).

Translation: In recognition of patterns represented by eroded sets, the necessity
arises of estimating the membership functions of objects in the learning sequence.
The conditions placed on systems of classes in fixing the membership functions
are studied. A method is suggested for estimating the membership functions of
elements of eroded sets. The methods used are illustrated by example.

1/1

USSR

UDC: 51

OGORODNEYCHUK, I. F., KUNIK, Ye. G., KUZEMIN, A. Ya., OSIYEVSKIY, A. G.,
GOLOVKO, L. A.

"Methods of Multiple-Criterion Optimization"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Systems and Devices. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 27, pp 43-54 (from RZh-Matematika, No 9, Sep 73, abstract No 9V589 from the authors' abstract)

Translation: A survey is done on a series of methods of solving optimization problems having several quality criteria. As an object of optimization, the authors examine the yearly program of an enterprise with three goal functions (quality criteria). A method is described for solving problems of optimizing an object with many criteria with application of a random search algorithm. Bibliography of 14 titles.

1/1

- 53 -

Acc. No. **AP0040918**

Ref. Code: UR 0422

PRIMARY SOURCE: Standarty i Kachestvo, 1970, Nr 1, pp 29-30

/ Development of Method, Instrumentation and Nosms
for Determination of Impact Strength of Crushing
Elements Tovarov, V. V.; Oskalenko, G. N.;
Pisarenko, I. S.

The currently valid GOST 7522-64 specifying casti-
ron crushing cylinders and ellipsoids fails to provide a
most important operational property, the impact strength.
This property can be checked by means of a newly de-
veloped and manufactured set-up which requires 20 to
25 minutes to determine the relative impact strength of
a perpesentative sample of the crushing elements (25 spe-
cimens). The tests resulted in the selection of a method
for the determination of impact strength and in recom-
mendations concerning its normal values for introduc-
tion into GOST 7522-64.)

MT

REEL/FRAME
19750657

1/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SULFUR CONTAINING 1,3,INDANDIONES AND PHTHALIDES. II. HYDROLYSIS
OF BENZYLIDENE THIOPHTHALIDE IN AN ALKALINE MEDIUM -U-
AUTHOR--(02)-MUCENIECE, D.KH., OSKAYA, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3) 595-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--KETONE, BENZENE DERIVATIVE, ORGANIC SULFUR COMPOUND,
HYDROLYSIS, HETEROCYCLIC OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1529

STEP NO--UR/0366/70/006/003/0595/0599

CIRC ACCESSION NO--AP0112523

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--02DCT70

CIRC ACCESSION NO--AP0112523

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROLYSIS OF BENZYLIDENETHIOPHTHALIDE (I) IN STRONGLY ALK. SOLNS. GAVE O-PHCH:C(SH)C SUB6 H SUB4 CO SUB2 H (II). THE REACTION OF I WITH H SUB2 NOH.HCL GIVES FIRST II, WHICH THEN IS CONVERTED INTO 4,BENZYL, 1H,2,3,BENZOAZIN,1,ONE. SIMILARLY, METHYLATION OF I WITH ME SUB2-SO SUB4 GIVES O-PHCH:C(SME)C SUB6 H SUB4 CO SUB2 H (III). REFLUXING III IN MEQH-H SUB2 SO SUB4 GAVE O-PHCH SUB2 COC SUB6 H SUB4 CO SUB2 ME. REFLUXING III IN MEQH CONTG. TRACES OF H SUB2 SO SUB4 GAVE O-PHCH SUB2 CSC SUB6 H SUB4 CO SUB2 ME, ALSO PREPD. DIRECTLY FROM II.

UNCLASSIFIED

Devices

USSR

UDC 621.327.534.15.032.43(088.8)

MAMSUROV, A.KH., OSKOLKOV, I.N., SAZHIN, L.I., TROFIMOV, V.V., YUDOVSKIY, B.Z.
[Vses. n.-i. kinofotoin-t--All-Union Scientific-Research Camera Institute]

"Device For Ignition Of Xenon Lamps"

USSR Author's Certificate No 311430, filed 13 Apr 70, published 6 Oct 71 (from
RZh:Elektrotehnika i energetika, No 5, May 1972, Abstract No 5v190F)

Translation: A device is proposed for ignition of xenon lamps, which contains a rectifier made with a thyristor, with a control circuit consisting of a RC network [tsepchka] with a switching diode. The rectifier is supplied from a supplementary winding of the power transformer of the rectifier. In order to accomplish control of the process of ignition of the lamps, an increase of their lifetime, and a decrease of the overall size of the device, the rectifier is connected in series with a supplementary winding of the transformer in the ignition circuit [tsep'] of the xenon lamp. For supply of the control circuit an auxiliary rectifier is used, connected to the power transformer, at the output of which the RC network is connected. 1-ill. Ye.I. Afanas'yeva.

1/1

USSR

RUTES, V. S., ASKOL'DOV, V. I., LIBERMAN, A. I., SEMCHENOV, N. I., OSKOLKOV, N. A.,
Central Scientific Research Institute for Ferrous Metallurgy, "Amurstal" Plant

"Economic Effectiveness in the Casting of Ship Steels Beneath a Level in a
Continuous Steel Casting Unit"

Moscow, Metallurg, No 10, Oct 70, pp 20-21

Abstract: Methods of protecting metal in a crystallizer from secondary oxidation during casting of type 10KSND, 09G2S, 09G2, and other ship steels were studied. The investigations showed that when casting was performed beneath a level of a graphite-based mixture so that the surface of the metal was protected by the heat-insulating mixture, the volume of cleaning of cast billets and of sheets after rolling was reduced, and the rate of final rejection of sheets was decreased. The economic effectiveness of this method is 4.7 rubles per ton of steel.

1/1

1/2 022 UNCLASSIFIED
TITLE--STABILIZATION OF AUSTENITE -U-

PROCESSING DATE--18SEP70

AUTHOR--(03)-BERDOVA, V.S., YERSHOV, V.M., OSLOM, N.L.
~~OSLOM, N.L.~~

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1), 209-12

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--AUSTENITE, CRYSTAL LATTICE, MARTENSITE, HYDROGEN, NITROGEN,
THERMAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1984/0187

STEP NO--UR/0126/70/029/001/0209/0212

CIRC ACCESSION NO--AP0054983

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STABILIZATION OF AUSTENITE IS GOVERNED BY ITS INITIAL STATE. IN THE 1ST STAGE OF MARTENSITE CONVERSION WHEN, OWING TO COHERENCE BETWEEN THE GAMMA PHASE AND MARTENSITE PHASES, THE AUSTENITE LATTICE IS ELASTICALLY STRETCHED, AND POSSESSES PARAMETERS ABOVE THE ANTICIPATED, AS DETD. BY GRAPHIC EXTRAPOLATION, THERMAL STABILIZATION OF THE AUSTENITE IS GOVERNED BY THE INTRODUCTION OF C ATOMS IN ADDN. POSSIBLY TO H AND N IN THE GAMMA PHASE LATTICE, I. E. A LOWERING OF THE MARTENSITE POINT. IN THE FINAL STAGE OF MARTENSITE CONVERSION, WHEN THE AUSTENITE IS COMPRESSED BY THE SKELETON OF MARTENSITE CRYSTALS FORMING, STABILIZATION OF THE AUSTENITE IS GOVERNED BY MECH. HARDENING AND ELASTIC RELAXATION STRESSES.

UNCLASSIFIED

OS'MAKOVA, Ye. I.

JPRS 58067
26 Jan 73

- 1 -

[I - USSR - C]

Psychopharmacology

THE USE OF PSYCHOLOGICAL METHODS FOR THE INVESTIGATION OF THE
PSYCHOTROPIC ACTION PROPER OF SOME PSYCHOPHARMACEUTICAL SUBSTANCES

UDC 615.216.07:616-072.3

JPRS 58067
26 January 1973

Article by Ye. I. Os'makova, Section of Psychopharmacology (Chief-Professor
G. Ya. Avrunskiy of the Moscow Scientific Research Institute of Psychiatry
(Director-Professor A. N. Fortinoy) of the Ministry of Public Health; Moscow,
Zhurnal Nevropatologii i Psikiatrii, Russian, No 11, 1972, submitted
26 May 1972, pp 1705-1708]

Results of experimental-psychological investigation of the
psychotropic action proper of psychopharmaceutical sub-
stances were presented. The possibility of individual
psychological methods of investigation are demonstrated
and the necessity for consideration of learning during the
repeated use of them is shown. Differences in the effects
of amphetamine, phenamine, triplaxine and synnocarb
according to different methods in both healthy persons
and those suffering from schizophrenia are established.
(7 References).

Psychopharmaceutical substances, in addition to the antipsychotic
action characteristic of them, have a general influence upon the psychic
activity of both ill persons and healthy persons. There is discussion of
the so-called psychotropic effect proper of preparations [1-4].

This investigation is part of a complex study of the psychotropic
effect proper of psychopharmaceutical substances, conducted at the Depart-
ment of Psychopharmacology of Moscow Scientific Research Institute of the
Ministry of Public Health RSFSR.

The study involved the study of the psychotropic effect proper of
some psychopharmaceutical preparations with the help of psychological
methods of investigation. Simple tests, which may be used in the investigation
of psychotic patients, in an acute psychotic state, were chosen. Psychological
methods which would provide indices subject to quantitative evaluation were
required.

USSR

UDC: 621.372.01-503.25

OS'MANIN, A. A.; PODUNAYEV, G. A., KRUGLIKOV, G. A.

"On the Time Resolution of Circuits With a Selective Tank"

Uch. zap. Ul'yansovsk. gos. ped. in-t (Scientific Notes of Ulyanovsk State Pedagogical Institute), 1970, 24, No 3, part 2, pp 307-314 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A86)

Translation: The authors introduce the concept of time resolution of the circuits they are investigating. It is shown that analytical determination of time resolution requires derivation of an expression for the dynamic frequency characteristic of the system. Such a frequency characteristic is analyzed. The resultant expressions are used as a basis for determining the resolution as a function of the parameters of the input signal and circuit parameters. Four illustrations, bibliography of six titles. N. S.

1/1

- 26 -

USSR

UDC 621.43.063.66.094.37

OSMANOV, M. Q., SULTANOV, M. YU. and BELEN'KIY, M. S., Azerbaydzhan Institute of Petroleum and Chemistry imeni M. Azizbekov

"Effectiveness of the Use of Platinum, Palladium, and Copper-Chrome-Oxide Catalysts to Render Engine Exhaust Gases Harmless"

Moscow, Avtomobil'naya Promyshlennost', No 3, 1973, pp 13-14

Abstract: Experiments conducted on SHPK-2 platinum SHPK-0.5 palladium and AzIMYEFTEKHIM-670 copper-chrome-oxide catalysts for rendering engine gases harmless, developed in the USSR showed the following. Under conditions of a tenfold or greater oxygen excess Pt and Pd were highly effective, while a twofold to fivefold oxygen excess resulted in all three being highly effective. When the ratio of CO, H₂ and O₂ is approximately stoichiometric the copper-chrome-oxide was much more effective than the others, while if the O₂ concentration is lower than stoichiometric, only copper-chrome-oxide showed any effectiveness. After 10 hours of function using ethylated benzene Pt and Pd lost significant effectiveness, while the copper-chrome-oxide did not lose effectiveness after 50 hours.

1/1

USSR

UDC: 547.944/945

OSMANOV, U., ARIPOV, Kh. N., SHAKIROV, T. T., "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials

"Isolation of Vincanine and Vincanidine From the Roots of *Vinca Erecta*"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 3, 1973, pp 442-443

Abstract: The usual method used for extracting vincanine and vincanidine from *Vinca erecta* leaves almost all the vincanidine on the cation exchange resin and requires considerable expenditures of solvent and time for removal. A procedure is developed for extraction by which the vincanine yield is increased by 10% over the conventional method and a satisfactory yield of vincanidine is obtained. Pulverized roots of *V. erecta* are treated by extraction with H_2SO_4 , the extract is alkalized with concentrated NH_4OH to pH 8-8.5 and the alkaloids are extracted with chloroform. The chloroform sum is evaporated and phenol alkaloids are extracted with 5% NaOH. The alkali solution is acidified with 10% H_2SO_4 , washed once with ethyl ether, alkalized with NH_4OH to pH 8-8.5, and phenol alkaloids are extracted with ethyl ether. As the ether condenses, vincanidine crystals precipitate in the amount of 70% of the content in the raw material. The nonphenol alkaloids are transferred from chloroform to 10% 1/2

USSR

OSMANOV, U., et al., Khimiya Prirodnikh Soyedineniy, No 3, 1973, pp 442-443

H₂SO₄, alkalized to pH 8-8.5 and extracted with benzene. Evaporation of the benzene solution yields vincanine in the amount of 85% of the content in the raw material.

2/2

USSR

UDC 661.718.1+661.183.123

EFENDIYEV, A. A., ABBASOVA, B. G., OSMANOV, H. O., and KERIMOVA, S. A.,
Institute of Theoretical Problems of Chemical Technology, Academy of Sciences
Azerbaijani SSR

"Phosphorus-Containing Complex-Forming Polymers on the Basis of Vinylphosphonic
Acid Diisobutyl Ester and Acrylic Acid"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2, 1971, pp 159-163

Abstract: Vinylphosphonic acid diisobutyl ester (I) was copolymerized with acrylic acid (II) to form copolymers containing I 50.2, II 49.8, cross-linking agent 4% (P 6.8%) and I 22.5, II 77.5, cross-linking agent 4% (P 3.0%). Copolymerization was carried out under the action of UV light in the presence of 1% cumene hydroperoxide, (cf. V. A. Kargin, A. A. Efendiyev, et al DAN SSSR, Vol 144, p 1307, 1962). I was prepared by splitting off HCl from beta-chloroethylphosphonic acid diisobutyl ester obtained by reacting iso-BuOH with a mixture of $AlCl_3$, PCl_3 and dichloroethane. Comparison of the two copolymers showed that with an increasing content of II the moisture content increased, the tensile strength and relative elongation decreased, and the rate of swelling increased. The capacity of films of the copolymers to adsorb K, Na, Ca, Mg, Ba, Ln/Mn $^{2+}$, Cu, Co, and Ni ions was determined. The films practically did not adsorb $1/2$

USSR

EFENDIYEV, A. A., et al., Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2, 1971, pp 159-163

the ions of alkali and alkaline earth metals (adsorption capacity < 0.1 mg/equiv/g), while adsorbing effectively and with a selectivity close to 100% the ions of Cu, Co, and Ni from aqueous solutions containing ions of alkali and alkaline earth metals. Adsorption of Cu, Co, and Ni ions took place with the formation of complexes which were decomposed under the action of 1N HCl. Adsorption of Co^{++} and Ni^{++} was carried out at pH 6.8, that of Cu^{++} at pH 5.2, using solutions of acetates of the metals being adsorbed. A study of the kinetics of adsorption of Cu^{++} at pH 5.2 indicated that adsorption proceeded slowly - a state of equilibrium was reached only in several days. On the other hand, desorption with 1N HCl took place rapidly, being completed in 30 min. As shown by an electron-microscopic study, the difference in the rate of desorption vs. that of adsorption was due to a change in the structure of the copolymers with a changing pH; at pH ≤ 1.1 the copolymer macromolecules had a fibrillar structure, whereas at pH ≥ 3 the fibrils rolled up, forming globules.

2/2

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1/3 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THE EFFECT OF THE APERTURE ON THE ERROR OF MICROINTERFEROMETER
READINGS -U-
AUTHOR-(02)-BALUYEVA, N.N., OSMOLOVSKAYA, YE.P. O
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IZMERITEL'NAYA TEKHNIKA, NO 2, 1970, PP 37-40
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--INTERFEROMETER, ERROR CORRECTION/(U)M114 INTERFEROMETER,
(U)M119 INTERFEROMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1461 STEP NO--UR/0115/70/000/002/0037/0040
CIRC ACCESSION NO--AP0115392
UNCLASSIFIED

2/3 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

GIRC ACCESSION NO--AP0115392

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. IN MICROINTERFEROMETERS OF THE MII TYPE, USED FOR MEASURING ROUGHNESS AS WELL AS INTERFEROMETERS FOR MEASURING LENGTH AND FLATNESS, THE MEASURE OF COMPARISON IS THE WAVE LENGTH LAMBDA OF THE EMPLOYED LIGHT. THE PRINCIPLES OF MEASUREMENT ON THE INDICATED INSTRUMENTS CONSISTS IN THE FACT THAT THE VALUE IS EXPRESSED IN A FORMULA ACCORDING TO WHICH THE "BAND WIDTH" IS EQUAL TO HALF THE WAVE LENGTH. HOWEVER, THIS FORMULA IS VALID ONLY FOR ROUGH MEASUREMENTS. WHERE HIGH PRECISION IS REQUIRED, THE SO CALLED BAND WIDTH CAN NO LONGER BE ASSUMED EQUAL TO THE HALF THE WAVE LENGTH AND THE CALCULATION IS CONDUCTED OTHERWISE. THEORETICAL AND EXPERIMENTAL DATA SHOW THAT IN INTERFERENCE CIRCUITS EFFECTED ACCORDING TO THE PRINCIPLE OF BANDS OF EQUAL SLOPE, THE APERTURE OF THE ILLUMINATING PENCIL OF RAYS DOES NOT AFFECT THE WIDTH OF THE INTERFERENCE BAND. CONSEQUENTLY, THE INTRODUCTION OF CORRECTIONS WHICH TAKE INTO ACCOUNT THE VALUE OF THE APERTURE INTO MEASUREMENT RESULTS OF THE MII-4 INSTRUMENT IS NOT ONLY SUPERFLUOUS, BUT IS COMPLETELY IMPERMISSIBLE. INTERFERENCE CIRCUITS EFFECTED ACCORDING TO THE PRINCIPLE OF BANDS OF EQUAL THICKNESS, THE WIDTH OF THE INTERFERENCE BAND IS LINKED IN A CONSISTENT MANNER TO THE APERTURE OF THE ILLUMINATING PENCIL OF RAYS. IN MEASUREMENTS WITH INSTRUMENTS OF THIS TYPE (MII-9), A CORRECTION TAKING INTO ACCOUNT THE VALUE OF THE APERTURE MUST BE INTRODUCED INTO THE RESULT OF THE MEASUREMENTS.

UNCLASSIFIED

3/3 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115392

ABSTRACT/EXTRACT--EXPANSION OF THE INTERFERENCE BAND AS THE APERTURE INCREASES WITH INTERFERENCE OF EQUAL THICKNESS PERMITS THE ASSUMPTION TO BE MADE THAT IN SUCH A CASE, IN THE GREGION OF THE LOCALIZATION OF INTERFERENCE BANDS THERE TAKES PLACE A RESUPERPOSITON OF INTERFERENCE MAXIMA (OR MINIMA) DUE TO RAYS OF DIFFERENT DIRECTIONS. IN SUCH A CASE A COMPLEX INTERFERENCE PATTERN ORIGINATES, WHICH REQUIRES ADDITIONAL THEORETICAL AND EXPERIMENTAL RESEARCH.

UNCLASSIFIED

USSR

UDC 535.214.089.6

OSMOLOVSKIY, S. R. and CHISTAKOV, V. A.

"Calibration of Radiometers Within the Range of Temperatures Close to the Surrounding Medium"

Moscow, Metrologiya, No 7, 1972, pp 40-49

Abstract: The problem concerns the calibration of radiation-equipment radiometers for temperatures close to the temperature of the surrounding medium. The basic requirements for the calibration equipment are defined. A description of the developed emitters is presented, together with results of research on them. The circuit for controlling the emitter temperature stability is illustrated by a diagram. The errors of radiometer calibration on the basis of the emitters are analyzed. 2 tables. 3 figures. 5 references.

1/1

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USSR

UDC 62.-752.4:53.082.52

KOVAL', S. T., Candidate of Sciences, KLIMCHUK, L. S., OSMOLOVSKIY, Yu. F.,
SIGIDA, Yu. A.

"Influence of Rotary Picture on the Accuracy of a Photoelectric Angle Meter
in a Nongimbal Electrostatic Gyroscope"

Optiko Mekhanicheskaya Promyshlennost', No 12, 1972, pp 8-11.

Abstract: The use of the so-called "exotic" gyroscopes is primarily related to the problem of coupling of the body of the gyroscope to an isolated spherical rotor, which can be successfully solved using photoelectric devices. Among the many photoelectric devices for determination of information on the relative position of the axis of rotation of the spherical rotor in a non-gimbal gyroscope, pulse-width systems provide comparative simplicity of determination of the direction cosines $\cos \lambda$, $\cos \mu$ and $\cos \nu$. This article produces a general formula which can be used to determine the accuracy of a photoelectric system. Various rotor pictures are analyzed using this formula. With otherwise equivalent conditions, the minimum error in calculation of the latitude angle is provided where $\cos \lambda = t_\lambda/T$, $F(\lambda) = -1/T$, $V_\lambda = 1/\sqrt{1 + 4\pi^2 \sin^4 \lambda}$, $\Delta \cos \lambda = \tau k/\rho T \sqrt{1 + 4\pi^2 \sin^4 \lambda}/\sin \lambda$.

1/1

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USSR

UDC 681.327.12

BUDNYAK, A. A., OSMOLOVSKIY, YU. F., PETRENKO, A. I., SAKUN, V. A.,
PESECHKO, V. A., Kiev "Order of Lenin" Polytechnical Institute imeni
the Fiftieth Anniversary of the October Revolution

"A Color-Recognition Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye
Znaki, No 4, 1970, p 103, patent No 260983, filed 17 Nov 67

Abstract: This Author's Certificate introduces a color-recognition
device based on patent No 219923. As a distinguishing feature of the
patent, the speed of the device is increased and its overall size is
reduced by making the radiation photoreceiver in the form of an electro-
magnetic electron stream commutation system with three sections in
the photocathode of the photomultiplier. This system consists of
three electromagnets with optical filters between their poles. These
electromagnets are connected through bidirectional switches to a ring
commutator which alternates the direction of the magnetic fluxes in
the electromagnets. This commutator connects the reference phase of
the voltage to a phase meter.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PATHOGENETIC SURGICAL TREATMENT OF OSTEOCHONDROSIS OF THE SPINE -U-
AUTHOR--OSNA, A.I.
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 6, PP 29-34
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BONE DISEASE, ORTHOPEDIC SURGERY, CHEMOTHERAPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0911 STEP NO--UR/9115/70/000/006/0029/0034
CIRC ACCESSION NO--AP0129976
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129976

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR PRESENTS HIS EXPERIENCE IN THE STUDY OF ABOUT 1500 PATIENTS WITH OSTECHONDROSIS OF THE SPINE, OF WHOM 770 UNDERWENT OPERATIONS AND 288 WERE TREATED BY PUNCTION. IN THE COURSE OF OSTECHONDROSIS IN EACH VERTEBRAL SEGMENT HE DISTINGUISHES 4 PERIODS CHARACTERIZED BY DEFINITE CLINICAL AND MORPHOLOGICAL PICTURE. THE METHODS OF CLINICAL EXAMINATIONS ARE DESCRIBED, AND RECOMMENDATIONS ARE GIVEN WITH RESPECT TO TREATMENT OF OSTECHONDROSIS DEPENDING ON THE PERIOD OF DEVELOPMENT OF THE DISEASE AND LOCALIZATION OF THE PROCESS (CONSERVATIVE, NOVOCAIN, ALCOHOL NOVOCAIN, PAPAIN BLOCKADES OF DISCS, OPERATIVE). FACILITY: NOVOKUZNETSKOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY.

UNCLASSIFIED

172 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--VISCOSITY OF MELTS OF DEFLUORINATED PHOSPHATES -U-
AUTHOR--(03)-OSNACH, A.M., PYORO, L.S., BRYANTSEV, B.A.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. UKR. 1970, (1), 3-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOSPHATE, FLUORIDE, FLUID VISCOSITY, FERTILIZER PRODUCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0855 STEP NO--UR/0436/70/000/001/0003/0005
CIRC ACCESSION NO--AP0118031
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118031

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE VISCOSITY OF APATITE MELTS WAS MEASURED AT AVRIOUS TEMPS. IN ORDER TO CALC. THE OPTIMAL PARAMETERS FOR FERTILIZER PRODUCTION. DEFLUORINATED APATITE WAS USED BECAUSE SLIGHT CHANGES IN THE F CONTNET CAUSE CONSIDERABLE VARIATIONS IN THE MELT VISCOSITY. F DEPRESSES THE MELTING TEMP. AND MAKES THE MELTS LESS VISCOUS. DEFLUORINATED APATITE M. 1600DEGREES. VISCOSITY CHANGES OF 5-200 P WERE MEASURABLE DURING THE COOLING PROCESS. ADDN. OF 10-12PERCENT SIO SUB2 LOWERS THE MELTING TEMP. TO 1380DEGREES. AT 6 AND 16PERCENT SIO SUB2, THE MELTING TEMP. IS 1500DEGREES. ADDING 10PERCENT H SUB3 PO SUB4 (70PERCENT) LOWERS THE MILTING TEMP. TO 1400DEGREES. DESPIRTE THE CHEAPNESS OF SAND, THE MOST ECONOMICAL ADMIXT. TO THE CONVERTER IS 2-3PERCENT P SUB2 O SUB5 IN THE FORM OF THE ACID TO APATITE ORE CONCENTRATES CONTG. F. FACILITY: INST. GAZA, KIEV, USSR.

UNCLASSIFIED

USSR

UDC: 621.372.853.2.092.22

OSNOS, V. M.

"Weakly Perturbing Isotropic Magnetodielectric Parallelopiped in a Rectangular Waveguide"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Engineering, Scientific-Technical Collection, Ferrite Techniques) 1970, No. 4(26), pp 30-32 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B136)

Translation: An approximate formula is given for computing the modulus of the transfer factor for the case of an isotropic magnetodielectric parallelopiped in a rectangular waveguide. Author's abstract

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USSR

UDC 518.517.949.12

OSIPOV, V. M., GONCHAROV, V. I., MOLODYKH, V. A., and CHUDINOV, V. N.

"Approximation of Complex Transfer Functions by Interpolation"

Dokl. Yubileyn. nuach.-tekhn. konferentsii Fak. avtomat. sistem. Tomsk. politekhn. in-t (Reports of the Anniversary Scientific-Technical Conference of the Faculty of System Automation of the Tomsk Polytechnic Institute), Tomsk, 1970, pp 263-268 (from Referativnyy Zhurnal -- Matematika, No 8, Aug 71, Abstract No 8B775 by I. Shelikhova)

Translation: In analog computer investigations of automatic control systems of processes with distributed parameters, complex transfer functions must be approximated by fractionally rational expressions. A method of finding the coefficients of such approximating expressions by interpolation is presented for the case of processes with distributed parameters that have monotonic or near-monotonic transfer characteristics, which are approximated by exponents with a high degree of accuracy. The increase in approximation accuracy is due to the increase in the order of the approximating expression. Results of approximating transfer functions of the lag component are discussed.

1/1

USSR

UDC 621.372.85

GOLOVANOV, V. A., KRASNOV, YE. S., MERKIN, E. I., OSNOVINA, G. O., POLYAK, N. M.,
PROKOPENKO, V. G., and ERLIKH, E. I.

"Adhesives for the Ferrites of Super-High Frequency Instruments"

Elektron. tekhnika. Nauch.-tekhn. sb. Ferrit. tekhn. (Electronics Technology.
Scientific-Technical Collection of Articles. Ferrite Technology), 1971, vyp.4
(31), pp 111-114 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B154)

Translation: The authors study problems associated with the selection of an ad-
hesive for mounting ferrite inserts in high power level, super-high frequency in-
struments. Test results are also presented for various working conditions. Ori-
ginal article: one table and three bibliographic entries. Resume.

Devices

3

USSR

UDC 621.3.049.7

GOLOVANOV, V. A., YEREMICHEVA, K. A., KRASNOV, Ye. S., MERKIN, E. I., OSNOVINA, G. O., POLYAK, N. M., and ERLIKH, I. M.

"Adhesive with Epoxy Base"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 33, 1971, p 200

Abstract: This adhesive is designed to improve the operation of ferrite UHF devices in the face of low and high powered signals as well as temperature variations. A recipe for its manufacture is given.

1/1

USSR

UDC 541.67

OSOKIN, D. YA., SAFIN, I. A., and NURETDINOV, I. A., Kazan' Physical-Technical Institute, Academy of Sciences USSR

"Study of the Electronic Effects of Trivalent Phosphorus Acids in Amides by the Method of NQR ^{14}N and ^{35}Cl "

Kiyev, Teoreticheskaya i Eksperimental'naya Khimiya, Vol 9, No 3, May-Jun 73, pp 404-408

Abstract: The nuclear quadrupole resonance [NQR] ^{14}N and ^{35}Cl spectra have been studied in a series of trivalent phosphorus acid amides. The results obtained were used in the study of the electronic structure of nitrogen atom in these compounds. Distribution of electronic density in the molecules of phosphorus acid amides is determined by the inductive and mesomeric interaction. In addition to the $\text{P} \pi - d \pi$ interactions between the N and P atoms, in case of the halogen substituents a substantial role is also played by the $\text{P} \pi - \sigma$ -conjugation between the orbital of the unshared pair at nitrogen atom and the σ -orbital of the substituent.

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Acc. Nr:

AT0050273

Abstracting Service:

CHEMICAL ABST. 5170

Ref. Code:

4R 0020

95120n Nuclear quadrupole resonance in some three-membered and other nitrogen-containing heterocycles. Onopkin, D. Ya.; Safin, I. N.; Nuretdinov, I. A. (Kazan. Fiz.-Tekh. Inst.,

Kazan, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(2), 357-60 [Chem] (Russ). The spectra were measured for ^{14}N and ^{35}Cl in ethylenimine, 1-chloroethylenimine, 2,2-dimethylethylenimine, azetidine, piperidine, morpholine, pyrrolidine, and pyrrole with the use of a pulsed nuclear quadrupole resonance spectrometer for 3 cm³ samples at 77°K. The results are tabulated together with the calcd. populations of the orbitals of the N-H and N-C bonds. The calcs. were carried out under the assumption that the principal tensor axis z of the elec. field gradient coincides with the orbital direction of the unfilled electron pair of the N atom. The bonds in ethylenimine and 1-chloroethylenimine may be described by the Coulson-Moffitt scheme (1949) at some delocalization of the electrons of the N-C bonds. The hybridization of the orbitals of the localized N-C bonds in azetidine is close to the tetrahedral one. V. Burjan

REEL/FRAME

19810203

USSR

UDC 543.422.27:547.1.118

OSOKIN, D. YA., SAFIN, I. A., and NURETDINOV, I. A., Institute of Organic and Physical Chemistry Imeni A. Ye. Arbutov, Acad. Sc. USSR, and Kazan' Physical Technological Institute, Acad. Sc. USSR

"Investigation of Electronic Effects in Metal Organic Compounds by the Method of Nuclear Quadrupole Resonance. i Communication. Acid Chlorides of Trivalent Phosphorus Acids"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, Jul 72, pp 1513-1517

Abstract: Nuclear quadrupole resonance spectra $-^{35}\text{Cl}$ and $-^{14}\text{N}$ were taken on more than 30 acid chlorides (mono- and dichlorides) of trivalent phosphorus acid. Analysis of the spectra showed that mesomeric properties of the substituents at the phosphorus atom determine the shifts in the frequencies of nuclear quadrupole resonance $-^{35}\text{Cl}$ of trivalent phosphorus acid chlorides. On the basis of nuclear quadrupole resonance $-^{35}\text{Cl}$ and $-^{14}\text{N}$ data it has been shown that chlorine atoms in $(\text{CH}_3)_2\text{NPCl}_2$ and nitrogen atoms in $[(\text{CH}_3)_2\text{N}]_2\text{PCl}$ are not equivalent in the solid phase.

1/1

USSR

LEVITIN, Ye. I., SEREBRYANIK, Ye. B., ZAYDEL', I. N., SHEKHMEYSTER, Ye. I.,
KUZIN, N. I., OSOKIN, G. V., BARANOVA, G. M.

"Method of Production of Photoelectron Devices"

USSR Author's Certificate No 274247, filed 13 Nov 67, published 24 Sep 70.
(from RZh—Elektronika i yeye primeneniye, No 5, May 1971, Abstract No
5A185P)

Translation: A method is patented for production of a photoelectron device
with a multialkaline photocathode. Maximum sensitivity is assured by in-
clusion of multiple heatings in the process of producing the photoelectron
device. Sensitizing of the photocathode by oxygen is performed after each
heating. The operations are repeated until a steady value of the sensitiv-
ity of the photocathode is obtained. T. F.

1/1

Acc. Nr.: 00041289

Ref. Code: UR 0209

USSR

UDC: None

OSOKIN: I

"Where Space Ships Meet"

• Moscow, Aviatsiya i Kosmonavtika, No. 1, 70, pp 24-25

Abstract: A discussion of the courses taken by artificial earth satellites in general and the course of the Soviet satellite IS3 in particular. The course is defined as the projection of the space ship flight trajectory on the earth's surface. Instructions are given on plotting the path of the satellite over the earth. The trajectory of descent is computed from the moment the parachute opens at altitudes of about 7-8 kilometers, but it is difficult to estimate in advance the extent to which the vessel is driven by the wind. This, however, is not particularly significant since, even in a strong wind of 25 meters per second, the vessel is not deviated more than 10-15 km after the chute opens.

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The course of the satellite in its orbit is practically constant relative to the stars, but changes with respect to the earth due to the earth's rotation. The path of the IS3 is a function of the period of revolution and the orbital inclination and eccentricity. Some simple calculations are made using the example of the IS3 in an unperturbed circular orbit with a definite orbital inclination of 60° but various periods of revolution. The path of the satellite with a 90 sidereal minute period of revolution has the form of a periodic curve with the point of intersection with the equator shifted to the west by 22.5° of longitude. This is shown in a diagram accompanying the article. A second diagram shows the course of the IS3 with a period of revolution equal to half a sidereal day (11 hours and 58 minutes of average solar time); the point of its intersection with the equator is shifted

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west by 180° . Other drawings show the path of the satellite when the period of revolution is equal to a sidereal day and is longer than a sidereal day. Thus, by varying the altitude of the satellite, its maneuvers can be controlled. To choose the landing spot, the revolution during which the orbit passes through the desired area is selected. A graphical method for determining the orbital precession is explained. Also explained is when and how the braking engine is switched on to bring the ship down out of its orbit.

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19751123

Acc. Nr.:

AN0051322

Ref. Code: UR 9008

FROM: FBIS, Daily Report, Soviet Union, 20 March 1970,
Vol III, No 55, p d 1

USSR

EXTENSIVE DATA ON LOMONOSOV CURRENT ACCUMULATED

Moscow RED STAR 15 Mar 70 p 4 L

[Article by Candidate of Historic Sciences, full member of the USSR Academy of Sciences Geographical Society, Capt 1st Rank S. Osokin: "The Lomonosov Current"]

[Excerpt] A Soviet expedition on the research ship Mikhail Lomonosov of the Ukrainian Academy of Sciences Marine Hydrophysical Institute, making observations on a grand voyage along the 30th meridian west longitude (from Greenland to the Brazilian basin), has discovered a powerful opposite movement of water precisely on the equator under the comparatively thin layer of the south equatorial current, which has a westerly direction.

The Ukrainian Academy of Sciences Presidium has named it the Lomonosov Current. On 10 trips, during which the discovered current was studied in detail, 94 floating stations were set up from the scientific research ship Mikhail Lomonosov, each for

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a period from one day to 19 days. Measurements of the current's speed and direction were made at 10 to 15 fixed depths. In all, speeds were measured at 828 points embracing a vast area of the tropical atlantic and a considerable depth of water. As a result of this approximately 1.5 million statistics were obtained and processed by computer. A still greater volume was composed of hydrological observations: temperature, salinity, and other indicators of the water masses. The entire depth of the ocean's waters was covered by them--from the surface to a depth of 4 kilometers.

A careful analysis of all the data obtained enabled a detailed physicogeographical characterization of the new current to be compiled. The subsurface equatorial countercurrent is a powerful stream more than 370 kilometers wide and approximately 200-250 kilometers in depth which is distinguished by the water's greater salinity and its increased content of oxygen and phosphate. The Lomonosov Current is very stable and it can be observed over a distance of 4,800 kilometers along the equator. The current's greatest speed reaches 2 knots (approximately 4 kilometers per hour) and can be observed at a depth of 80-100 meters. In the quantity of water it conveys the Lomonosov Current is a little inferior to the celebrated Gulf Stream.

Discovery of the Lomonosov Current is of great theoretical and practical significance. Extensive material has been obtained which has greatly enriched modern concepts of the general circulation of water in the world ocean. Sailors and fishermen have become acquainted with valuable new data characterizing the state of the water in the depths of the tropical Atlantic and its influence on climate, on navigation, and on the fishing industry.

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19811411

AB

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70 /
TITLE--PHASE DIAGRAM OF HYDRAZINETRIMETHYLBORON PYRIDINE AND
METHYLAMINETRIMETHYLBORON PYRIDINE SYSTEMS -U-
AUTHOR-(05)-SVITSYN, R.A., ZHIGACH, A.F., SOROKIN, P.Z., PETROVA, YE.I.,
SOROKIN, V.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1131-3
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, ORGANOBORON COMPOUND, PYRIDINE, HYDRAZINE
COMPOUND, AMINE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1145

STEP NO--UR/0078/70/015/004/1131/1133

CIRC ACCESSION NO--AP0136565

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

-2/2 023

CIRC ACCESSION NO--AP0136565

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE DIAGRAMS OF N SUB2 H SUB4
.BME SUB3 PYRIDINE (PY) AND MENH SUB2 .BME SUB2 -PY SYSTEMS ARE
PRESENTED. THE SYSTEMS FORM ADDUCTS (N SUB2 H SUB4 .BME SUB3).PY, (N
SUB2 H SUB4 .BME SUB3).2PY, AND (MENH SUB2 .BME).-PY WHICH CONGRUENTLY
M. MINUS 19.1, MINUS 30.3, AND MINUS 14.5DEGREES, RESP.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--0900170
TITLE--PHASE DIAGRAM OF AN AMMINETRIMETHYLBORON AMMONIA SYSTEM -U-
AUTHOR-(04)-SVITSYN, R.A., ZHIGACH, A.F., SOROKIN, P.Z., OSOKIN, V.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 849-51
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE DIAGRAM, AMMONIA, ORGANOBORON COMPOUND, EUTECTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1867 STEP NO--UR/0078/70/015/003/0849/0351
CIRC ACCESSION NO--AP0112847
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112847

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE DIAGRAM OF ME SUB3 BNH SUB3 (I)-NH SUB3 SYSTEM IS CONSTRUCTED. THE SYSTEM FORMS CONGRUENTLY MELTING ME SUB3 BNH SUB3.3NH SUB3 (II) (M. MINUS 80.4DEGREES) AND ME SUB3 BNH SUB3.2NH SUB3 (M. MINUS 71.3DEGREES) AND INCONGRUENTLY MELTING ME SUB3 BNH SUB3.NH SUB3 (M. MINUS 47.8DEGREES). II FORMS AN EUTECTIC WITH I AT 40.7 WT. PERCENT I AND M. MINUS 99.8DEGREES.

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UNCLASSIFIED

Acc. Nr.: AT0046539

Ref. Code: UR0146

USSR

UDC 621.317.713

GRUZDEV, S.V., DUBOVY, N.D., KARPOV, R.G., OSOKIN, V.I.

"Digital SHF Power Meter"

Tsifrovoy izmeritel' SVCh moshchnosti (cf. English above).
Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priboro-
stroeniye, 1970, No. 1, pp 30-33

Translation:

Considered is an SHF power meter with linear conversion of the measured quantity into pulse repetition frequency and automatic output of the measurement result in digital form. The basic analytic relations and experimental data are presented.

Reel/Frame
19781800

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USSR

UDC: 537.74

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., MATYUKHIN, Yu. D.,
OSOKIN, V. I., and YUDINA, V. P.

"UHF Power Meter With Automatic Selection of the Measurement
Limit"

Leningrad, Priborostroyeniye, No 1, 1972, pp 13-17

Abstract: Most UHF power meters of the self-balancing type, in which some of the measuring operations are automatic, have a manually operated method of setting the measurement limit. The authors, members of the Ryazan Radio Engineering Institute, have devised a method of automating that adjustment as well. Where the measurements are based on the method of replacing the UHF power by the varying frequency pulse power, and especially in digital readout instruments, this can be done fairly easily, as the authors demonstrate. A block diagram of the device is given together with an explanation of its operation. The essence of the system is a pulse generator of a type for representing the output information in frequency form.

USSR

UDC: 621.317.37

OSOKIN, V. I., DUBOVOY, N. D., CHIBRIKOV, S. I., KARPOV, R. G., GRUZDEV, S.V.

"A Microwave Pulse Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331325, Division G, filed 23 Mar 70, published 7 Mar 72, p 135

Translation: This Author's Certificate introduces a microwave pulse power meter which contains a bolometric bridge, a detector and an amplifier. As a distinguishing feature of the patent, measurement accuracy is improved by feeding the output signal simultaneously to the inputs of a slave multivibrator and a slave sawtooth voltage oscillator. The output of the sawtooth voltage oscillator is connected to the input of a memory unit. The output signal from the memory unit is sent to one of the inputs of a two-coil ratiometer, and the signal from the output of the bolometric bridge is sent to the second input of the two-coil ratiometer through a second memory unit. A signal is sent to the input of the bolometric bridge through a high-frequency switch from the output of a flip-flop. A signal from the output of the slave multivibrator is sent to one input of the flip-flop

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USSR

OSOKIN, V. I. et al., USSR Author's Certificate No 331325

through a pulse duration shaper, a frequency divider and a delay line. The second input of the flip-flop is connected to the output of the pulse duration shaper.

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- 91 -

USSR

UDC: 621.317.784.023(088.8)

KARPOV, R. G., GRUZDEV, S. V., OSOKIN, V. I., DUBOVOY, N. D., KROTENKO, V. I.,
MAKSIMOV, Yu. N.

"An SHF Power Meter"

USSR Author's Certificate No 263006, filed 30 Apr 68, published 8 Jun 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A277 P)

Translation: This Author's Certificate introduces an SHF power meter which contains a self-balancing thermistor bridge with a selective amplifier in the self-balancing circuit, and a heater for the thermistor. As a distinguishing feature of the patent, measurement precision is improved by using a high-frequency oscillator as the thermistor heating source.

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USSR

UDC: 621.317.784.023(088.8)

OSOKIN, V. I., DUBOVOY, N. D., KARPOV, R. G., GRUZDEV, S. V., CHIBRIKOV, S. I.

"An Automatic SHF Power Meter"

USSR Author's Certificate No 268519, filed 18 Nov 68, published 14 Aug 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A275 P)

Translation: This Author's Certificate introduces an automatic SHF power meter with double comparison which contains an automatically balancing thermistor bridge, a microwave cutoff switch and a power indication circuit. The proposed meter differs from conventional units in the fact that the rectifier input is connected to the bridge output, and the rectifier output is connected to one of the comparator inputs; the other comparator input is connected to the output of an integrator, and the comparator output is connected to the inputs of flip-flops; the output of a sawtooth voltage generator is connected to a thermistor and to a meter, resulting in increased speed and accuracy of measurement over a wide temperature range. E. L.

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USSR

UDC 621.317.744

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Pulse-Frequency Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 17, 12 May 70, p 56, Patent No 270887, Filed 8 Dec 68

Translation: This Author's Certificate introduces a pulse-frequency super-high-frequency power meter containing a bolometric bridge, a pulse amplifier, an amplitude detector, a generator with controlled frequency, an auxiliary generator and a subtracting circuit. In order to increase the sensitivity the output pulse repetition frequency divider of the controlled generator is connected to the feedback circuit of the bridge circuit.

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USSR

UDC 621.317.323

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratztsy, Iovarmyye Znaki, No 17
12 May 70, p 55, Patent No 270888, Filed 8 Dec 68

Translation: This Author's Certificate introduces a superhigh-frequency power meter containing a thermistor bridge, an amplifier, a controlled frequency generator and a measuring regulation circuit. In order to increase the measurement accuracy, the controlled frequency oscillation output and the reference oscillation output in the sensitivity regulating circuit are connected via dividers to the pulse sequencing switch, and the subtractor output is connected to the digital sensor for controlling the conversion voltage frequency and the division factor of the dividers.

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USSR

UDC 621.317.328

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"Superhigh-Frequency Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 17, 12 May 70, p 56, Patent No 270886, Filed 9 Dec 68

Translation: This Author's Certificate introduces a superhigh-frequency power meter containing a thermistor bridge, a selective amplifier and a power indicating circuit. In order to increase the measurement accuracy, in the power indicating circuit the output of the balancing oscillation rectifier is connected to a comparator and an integrator, the integrator output is connected to the second input of the comparator, and the output of the comparator is connected via the control circuit to the saw oscillator the output of which is connected to the thermistor.

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USSR

UDC 621.317.784.023(088.8)

KARPOV, R. G., GRUZDEV, S. V., FROLIN, M. I., OSOKIN, V. I., DUBOVOY, N. D.

"Superhigh Frequency Power Meter"

USSR Author's Certificate No 272400, Filed 29 Apr 68, Published 22 Sep 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A283P)

Translation: A superhigh frequency power meter comprising a self-balancing bolometric bridge with an oscillator in the autobalancing circuit is proposed. The proposed meter is distinguished by the fact that in order to improve the meter sensitivity a pulse oscillator with constant amplitude and regulatable repetition rate is used as the oscillator. Its modulation characteristic depends on the peak value of the control pulse amplitude.

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UDC 621.317.78(088.8)

USSR

GRUZLEV, S. G., DUBOVY, N. D., KARPOV, R. G., OSOKIN, V. I.

"Super-High Frequency Power Meter"

USSR Author's Certificate No 275184, Filed 21 Jun 68, Published 14 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A276P)

Translation: A super-high frequency power meter containing a self-balancing bolometric bridge with an oscillator in the autobalancing circuit is proposed. A pulse oscillator with constant amplitude and regulatable length, the modulation characteristic of which depends on the peak amplitude of the control pulses was used as the oscillator to improve the measurement accuracy.

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USSR

UDC: 621.317.78.023(088.8)

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"An SHF Power Meter"

USSR Author's Certificate No 270886, filed 8 Dec 68, published 24 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A337 P)

Translation: An SHF power meter is proposed which contains a thermistor bridge, a selective amplifier and a power indication circuit. In order to improve measurement accuracy, provision is made in the proposed meter for automatic compensation of the error in comparison of the measured power with the substituting power increment. This is accomplished by using a storage integrator, a comparator and a sawtooth voltage generator to which a pointer indicator is connected at the instant when the sawtooth voltage reaches the balance level. E. L.

1/1

- 45 -

USSR

UDC: 621.317.784.023(088.8)

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"A Pulse-Frequency SHF Power Meter"

USSR Author's Certificate No 270887, filed 8 Dec 68, published 24 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A334 P)

Translation: This Author's Certificate introduces a meter which contains a bolometric bridge, pulse amplifier, amplitude detector, variable-frequency oscillator and a subtraction device. As a distinguishing feature of the patent, a prf divider for the VFO pulse output is connected in the feedback circuit of the bridge resulting in an increase in meter sensitivity proportional to the division coefficient of the divider. E. L.

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USSR

UDC: 621.317.78

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I., CHIBRIKOV, S. I.

"An SHF Power Meter"

USSR Author's Certificate No 270888, filed 8 Dec 68, published 24 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A329)

Translation: An SHF power meter is proposed which contains a thermistor bridge, amplifier, variable-frequency oscillator and sensitivity control circuit. As a distinguishing feature of the patent, the proposed meter utilizes automatic sensitivity control which is effected by varying the frequency of the substituting voltage. This frequency is compared with that of the reference oscillations, and the difference between these frequencies is presented in digital form. The ultimate result is an increase in measurement precision. E. L.

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USSR

UDC 621.317.78

OSOKIN, V. I., GRUZDEV, S. V., DUBOVY, N. D., KARPOV, R. G.

"Automatic Device for Measuring Low Levels of Continuous Superhigh-Frequency Power"

Tr. Ryazansk. radiotekhn. in-ta (Works of Ryazan Radiotechnical Institute), 1970, vyp. 23, pp 188-196 (from RZh-Radiotekhnika, No 3, Aug 70, Abstract No 8A369)

Translation: A significant deficiency of self-balancing bridges as applied to measuring superhigh-frequency power is the high initial signal level at their output before supplying the measured power as a result of which the relative variation of this signal on arrival of the measured power at the bolometer is insignificant. A functional diagram is presented and analyzed, the special structure of which permits elimination of the indicated deficiencies and, in addition to this, automation of the measurement process, an increase in speed and an increase in accuracy. The instrument constructed by the described scheme, insures automatic measurement of the power in the 30 microwatt to 3 milliwatt range with accuracy to 5%. The measurement time for maximum power is less than or equal to 3 seconds.

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USSR

UDC 621.317.78

GRUZDEV, S. V., DUBOVOY, N. D., KARPOV, R. G., OSOKIN, V. I.

"High-Speed Superhigh-Frequency Power Meter"

Tr. Ryazansk. radiotekhn. in-ta (Works of Ryazan Radiotechnical Institute), 1970, vyp. 23, pp 174-187 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A376)

Translation: This article contains a description of an instrument which is an astatic tracking system constructed on the basis of a selective amplifier encompassed by positive feedback via a bolometric bridge. The block diagram of this meter and the time diagrams explaining its operation are presented. A short theory is presented. The possibility of applying the device on the indicated principle for stabilization of the generator power is noted. The bibliography has three entries.

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USSR

UDC 621.317.78

DUBOVOY, N. D., GRUZDEV, S. V., KARPOV, R. G. OSOKIN, Y. I.

"Superhigh-Frequency Power Meter with Time-Pulse Conversion"

Obmen opytom v radioprom-sti (Exchange of Experience in the Radio Industry)
vyp. 2, Moscow, 1970, pp 47-48 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract
No 8A373)

Translation: This article contains a block diagram and a description of the operating principle of a high-speed tracking time-pulse superhigh-frequency power meter. The meter includes a power amplifier, a controlled multivibrator, a pulse amplifier, a shaping circuit, and a delay line. The multivibrator is executed according to the schematic permitting control of the generated constant voltage pulse length. Variation of the pulse length can serve as a measure of the superhigh-frequency power. The pulse feed of the bridge circuit greatly improves the sensitivity of the bridge by comparison with constant or variable voltage feed.

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USSR

UDC: 621.317.784

OSOKIN, V. I., DUBOVY, N. D., KARPOV, R. G., GRUZDEV, S. V., CHIBRIKOV, S. I.

"An Automatic SHF Power Meter"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztstv, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268519, filed 18 Nov 68, p 44

Abstract: This author's certificate introduces an automatic SHF power meter with double comparison. The unit contains an automatic-balance thermistor bridge, an SHF disconnect and a power indication circuit. As a distinguishing feature of the patent, measurement precision is improved by connecting the rectifier input to the bridge output and connecting the rectifier output to one of the comparator inputs, the other comparator input being connected to the output of an integrator. The comparator output is connected to flip-flop inputs. The output of the saw-tooth voltage generator is connected to a thermistor and a meter pointer.

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USSR

UDC: 621.317.784

KARPOV, R. G., GRUZDEV, S. V., FROLIN, M. I., OSOKIN, V. I., DUEVOY, N. D.

"An SHF Power Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 19, 1970, Author's Certificate No 272400, p 50

Abstract: This author's certificate introduces an SHF power meter which contains a self-balancing bolometric bridge with an oscillator in the self-balancing circuit. As a distinguishing feature of the patent, the sensitivity of the meter is improved by using a pulse generator with constant amplitude and controllable prf as the oscillator. The modulation characteristic of this generator depends on the peak value of the amplitude of the controlling pulses.

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USSR

UDC 51

MAYZLIN, I. YE., OSOKIN, V. V., KARTSEV, V. S.

"Optimal Planning of Multinomenclature Production"

V sb. Mat. vopr. upr. proiz-vom (Mathematical Problems of Production Control--
collection of works), Moscow, vyp. 3, 1971, pp 4-14 (from RZh-Kibernetika, No
12, Dec 72, Abstract No 12V398)

No abstract

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AUTHOR--(04)-BORODIN, L.S., NECHAEVA, I.A., GANZEYEV, A.A., OSOKIN, YE.D.
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PETROL. AND GEOCHEMISTRY OF 2 MAIN GROUPS OF ALK. FORMATIONS ARE DISCUSSED: ALK. BASALTIC AND ALK. GRANITIC. SEVERAL FORMATIONS ARE SEPD. FROM THEM: ALK. ULTRABASIC, ALK. GABBROIC, K BASALTIC, ALK. GRANITIC, AND NEPHELINE SYENITE. THEIR DISTRIBUTION IN MAIN PETROGRAPHIC PROVINCES OF THE USSR AND FOREIGN COUNTRIES IS SHOWN TOGETHER WITH A DESCRIPTION OF THEIR DEVELOPMENT AND RELATION TO VARIOUS TYPES OF TECTONIC STRUCTURES. THE DEGREE OF ROCK JUVENILE CHARACTER, REFLECTING THE DEPTH OF ALK. MAGMA FORMATION AND PARTICIPATION OF JUVENILE ALK. EMANATION IN THE FORMATION OF VARIOUS TYPES OF ALK. ROCKS, IS CONSIDERED AS ONE OF THE MAIN FACTORS CONTROLLING PETROGRAPHIC AND GEOCHEM. PARAMETERS OF THE FORMATION. DATA ARE GIVEN ON THE DISTRIBUTION OF TYPOMORPHIC RARE ELEMENTS (BE, ZR, RARE EARTHS, LI, RB, AND SR) IN NEPHELINE SYENITE MASSIFS OF THE USSR BELONGING TO ALK. BASALTIC AND ALK. GRANITIC GROUPS. THE GEOCHEM. SPECIALIZATION OF ALK. ROCK IS CONTROLLED BOTH BY AFFILIATION WITH A DEFINITE FORMATION TYPE AND THE DEGREE OF JUVENILE CHARACTER OF ALK. MAGMAS. THE GENERAL CHARACTERISTICS OF RARE ELEMENT CONC. IN ALK. ROCKS ARE DISCUSSED. THE RELATION OF MOST RARE METAL DEPOSITS WITH MAX. ALKALINIZED JUVENILE OR HYBRID SERIES OF BOTH ALK. BASALTIC AND ALK. GRANITIC FORMATIONS WAS PROVEN. FACILITY: INST. MINERAL., GEOKHIM. KRISTALLOKHIM. REDK. ELEM., MOSCOW, USSR.

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